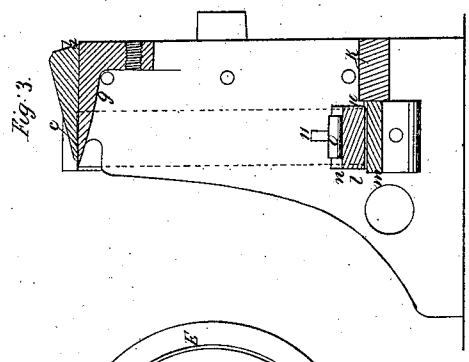
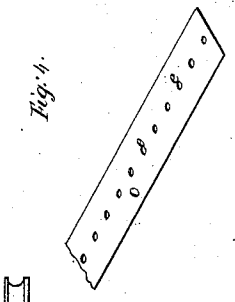
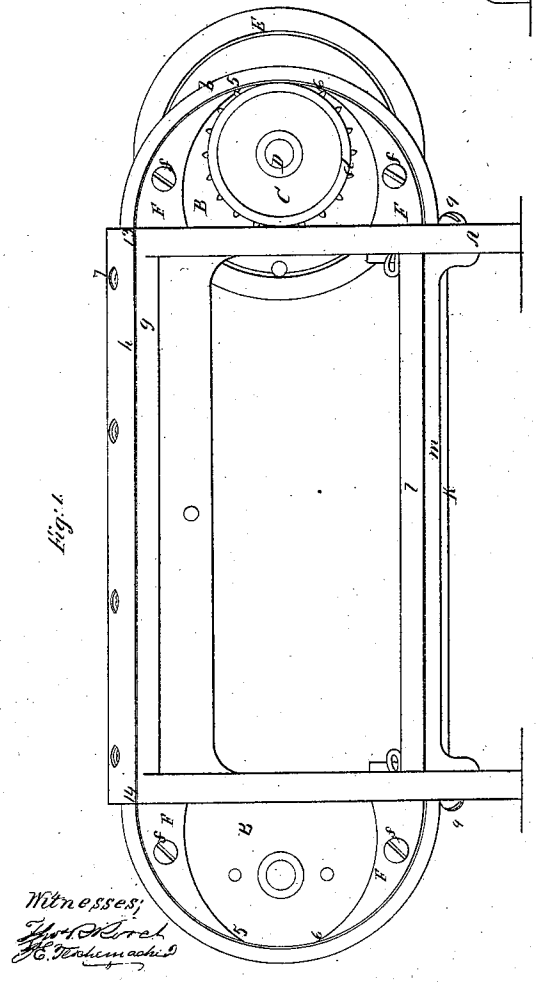
D. H. Chamberlain,

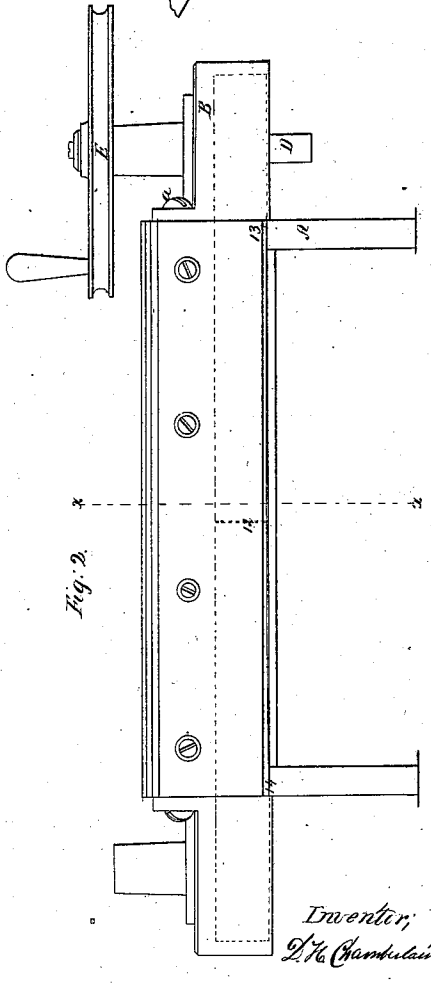
Splitting Leather.

No. 23900. Patented May 10, 1859.









Witnesses;
Thos. A. Lovell
H. C. Teschemacher

Inventor;
D. H. Chamberlain

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DEXTER H. CHAMBERLAIN, OF WEST ROXBURY, MASSACHUSETTS.

MACHINE FOR SPLITTING LEATHER.

Specification of Letters Patent No. 23,900, dated May 10, 1859.

To all whom it may concern:

Be it known that I, DEXTER H. CHAMBERLAIN, of West Roxbury, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Splitting Leather, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of the machine the leather feeding arrangement, and other parts not essential to the explanation of my present invention being removed. Fig. 2 is a plan of the same. Fig. 3 is a transverse vertical section on the line *x*, *x*, of Fig. 2. Fig. 4 is a view of a portion of the knife which I employ.

In machines for splitting leather a belt knife has been employed formed of a continuous strip of metal which was distended over a pulley or wheel at each end of the machine and thus maintained in the proper position for operating upon the leather, the two ends of the strip of metal being brazed together at the point where they unite to form the continuous belt. A serious difficulty has however occurred in the use of such a knife; for if the metal be sufficiently hard to keep a keen and smooth edge, it is liable to break and fly when strained, particularly near the point where the ends are joined or brazed together; and the temper of the blade at this point being let down by the brazing process, the edge is soon worn into a notch which marks the leather; while if the knife be made of soft metal it will not maintain an edge such as is required to make a smooth cut through the leather being split, to leave its surface even and uniform.

To obviate these difficulties is the object of my present invention which consists in inclosing the cutting blade within an external casing throughout the whole of its length, in such a manner that it may be driven without the necessity of having its ends joined together, and without straining by which means I am enabled to use a strip of highly tempered steel, which may be made uniform in hardness throughout its whole length.

That others skilled in the art may understand and use my invention I will proceed to describe the manner in which I have carried it out.

In the drawings A is the frame of the machine to each end of which is attached by screws *a* a semicircular box B the rim or side *b* of which is of sufficient width to accommodate the long thin ribbon of steel which forms the knife *c* (dotted in Figs. 2 and 3 and a portion of which is shown detached in Fig. 4); these boxes B may be adjusted in position nearer to or farther from the center of the machine by means of washers and the screws *a*, and also by means of these same screws they may be set nearer to the front of the machine as the knife wears away. Within each of the boxes B revolves a wheel C (one only of which is shown in the drawings) on the periphery of which is a series of pins *d* at uniform and equal distances apart, which pins as the wheels are revolved engage with the holes *e* in the blade *c* (Fig. 4) to drive it.

The shaft D on which the wheel C is carried has its bearings in the back of the box B and has attached to it a pulley E to which power is applied. A similar pulley at the other end of the machine is used to communicate an equable motion to the wheel C in the other box B. It is obvious that other methods may be adopted of giving motion to the blade *c* but as they form no part of my present invention, it is not necessary to describe them. Within each of the boxes B and secured thereto by screws *f* are the curved pieces F the outer edges of which form segments of a circle concentric with the rim *b* of the box, a sufficient space being left between the pieces F and the rim of the box, in which space the blade *c* runs; these pieces F are not continued around the whole interior of the rim *b*, but leave a space between the ends of the two pieces in each box, as from 5 to 6 (Fig. 1) where the wheel C comes into contact with the blade *c*.

The upper part of the frame A forms a shelf *g* the upper surface of which is flat and level and forms a way on the front part of which the blade *c* runs as it passes from the box B, over this and secured thereto by screws 7 is a guard *h*. This has its under surface recessed for a portion of its width from the front edge as shown at 8 (Fig. 3); in this recess, and between the guard *h* and shelf *g* runs the blade *c*. The upper surface of the guard *h* and the under surface of the shelf *g* are beveled off to a thin edge at the front immediately behind the cutting edge

of the blade *c* which projects a short distance beyond them as shown in Fig. 3. In front of the lower brace or cross bar *k* of the frame A is a piece *m*, the upper surface of which is planed smooth, and which is secured by screws 9; this piece *m* serves in a manner similar to the bar *g*, as a shelf on which the blade *c* runs; a guard *l* immediately above it confines the blade at this portion of its travel. A shoulder 10 on the rear side of the piece *m* serves as a guide for the back of the blade *c*. The guard *l* passes through slots *n* (Fig. 3) in the posts of the frame A and abuts against the pieces F. It is held in position longitudinally by pins 11 which also confine in place the india rubber springs *o*, inserted in the slots *n* over the guard *l*. These springs allow a slight vertical play to the guard *l*, which is thus prevented from binding the blade *c* too tightly.

The blade *c* is cut of the required length so that its ends may come together and form a snug joint as shown at 12 Fig. 2, if required one or both of the boxes B may be adjusted as before stated.

As the wheels C are driven by any suitable power, the pins *d* enter the holes *e* in the blade *c* and drive it continuously around within the semicircular boxes B at each end of the machine and along between the guard *l* and shelf *m* at the bottom, and between the guard *h* and shelf *g* at the top; the cutting edge against which the leather is pressed to be split, only being exposed while it is passing along the top of the machine, or from 13 to 14 Figs. 1 and 2.

As the blade is worn away by continually grinding its cutting edge, it is necessary that it be set forward. This may be accomplished in various ways. In the machine represented in the accompanying drawings the boxes B are brought forward as already described, and are secured in the required position by the screws *a*, while the portions of the blade between the guard *h* and shelf *g* above, and between the guard *l* and piece *m* below, may have a strip of metal of the required width inserted in the recess behind the blade.

The confinement of the blade throughout its entire length, enables me to dispense with the brazing of the ends together, which is a troublesome operation, and which so reduces the temper of the blade at this point as to render it liable to break at or near the joint, and also leaves a soft place which is sooner worn down than the balance of the blade, thus making its edge irregular; it also enables me to make use of a much thinner blade which may receive a uniform tempering throughout its whole length, an essential requisite toward keeping a smooth, keen and even edge such as is requisite for splitting leather.

What I claim as my invention as an improvement in machines for splitting leather, is—

Inclosing the cutting blade within an external casing throughout its entire length, for the purpose specified.

D. H. CHAMBERLAIN.

Witnesses:

THOS. R. ROACH,

P. E. TESCHEMACHER.